



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

SEP 22 2017

REPLY TO THE ATTENTION OF:

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Gene Brewer, CEO  
Thermofluid Technologies, Inc.  
3031 Topside Business Park Dr.  
Louisville, Tennessee 37777

Re: Finding of Violation  
Thermofluid Technologies, Inc.  
Louisville, Tennessee

Dear Mr. Brewer:

The U.S. Environmental Protection Agency is issuing the enclosed Finding of Violation (FOV) to Thermofluid Technologies, Inc. (you) under Section 113(a)(3) of the Clean Air Act, 42 U.S.C. § 7413(a)(3). We find that you have violated the Clean Air Act, 42 U.S.C §§ 7401 *et seq.* (the CAA), specifically the Significant New Alternative Policy Program regulations at 40 C.F.R. Part 82, Subpart G. EPA promulgated these regulations under Section 608 of the CAA, 42 U.S.C. § 7671g.

Section 113 of the Clean Air Act gives us several enforcement options. These options include issuing an administrative compliance order, issuing an administrative penalty order and bringing a judicial civil or criminal action.

We are offering you an opportunity to confer with us about the violations alleged in the FOV. The conference will give you an opportunity to present information on the specific findings of violation, any efforts you have taken to comply and the steps you will take to prevent future violations. In addition, in order to make the conference more productive, we encourage you to submit to us information responsive to the FOV prior to the conference date.

Please plan for your facility's technical and management personnel to attend the conference to discuss compliance measures and commitments. You may have an attorney represent you at this conference.

The EPA contact in this matter is Jason Schenandoah. You may call him at (312) 886-9506 to request a conference. You should make the request within 10 calendar days following receipt of this letter. We should hold any conference within 30 calendar days following receipt of this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "Edward Nam", written in a cursive style.

Edward Nam  
Director  
Air and Radiation Division

Enclosure

cc: Beverly Spagg  
Chief, Air Compliance Branch  
US EPA Region 4  
spagg.beverly@epa.gov

1. Section 612 of the CAA, 42 U.S.C. § 7671k, authorizes EPA to identify, review and restrict the use of substitutes for “Class I” and “Class II” ozone-depleting substances (ODS).
2. Under Section 602(a) of the CAA, 42 U.S.C. § 7671a(a), Congress identified “CFC-12” as a “Class I” ODS.
3. Under Section 602(b) of the CAA, 42 U.S.C. § 7671a(b), Congress identified “HCFC-22” as a “Class II” ODS.
4. Section 612(a) of the CAA, 42 U.S.C. § 7671k(a), requires that, to the maximum extent practicable, Class I and Class II ODS be replaced by chemicals, product substitutes, or alternative manufacturing processes that reduce overall risks to human health and the environment.
5. Under Section 612(c) of the CAA, 42 U.S.C. § 7671k(c), EPA promulgated the SNAP program regulations at 40 C.F.R. Part 82, Subpart G. These regulations establish standards and requirements for the use of Class I and Class II substances used in specific major industrial sectors where a substitute is used to replace an ODS including, among other things, refrigeration and air conditioning. See 59 *Fed. Reg.* 13044 (March 18, 1994).
6. Among the purposes of the SNAP regulations is to provide for safe alternatives to ODS. 40 C.F.R. § 82.170(a).

7. Among the objectives of the SNAP program is to identify substitutes for ODS that present lower overall risks to human health and the environment relative to Class I and Class II substances being replaced. 40 C.F.R. § 82.170(b).
8. Under the SNAP regulations at 40 C.F.R. § 82.176(a), any producer of a new substitute must submit a notice of intent to introduce a new substitute into interstate commerce 90 days prior to such introduction.
9. Under the SNAP regulations at 40 C.F.R. § 82.174(a), no person may introduce a new substance into interstate commerce before the expiration of 90 days after a notice is initially submitted to EPA under 40 C.F.R. § 82.176(a).
10. Under the SNAP regulations at 40 C.F.R. § 82.174(b), no person may use a substitute which a person knows or has reason to know was manufactured, processed or imported in violation of the SNAP regulations.
11. Under the SNAP regulations at 40 C.F.R. § 82.172, “substitute or alternative” is defined as “any chemical, product substitute, or alternative manufacturing process, whether existing or new, intended for use as a replacement for a class I or class II compound.”
12. Under the SNAP regulations at 40 C.F.R. § 82.172, “use” is defined as “any use of a substitute for a Class I or Class II ozone-depleting compound, including but not limited to use in a manufacturing process or product, in consumption by the end-user, or in intermediate uses, such as formulation or packaging for other subsequent uses.”
13. Under the SNAP regulations at 40 C.F.R. § 82.172, “person” is defined to include a corporation.
14. EPA has promulgated lists of refrigerants acceptable as substitutes for Class I or Class II ODS refrigerants, including some hydrocarbon refrigerants in specific uses. These lists are codified in the Appendices to 40 C.F.R. Part 82, Subpart G. See 59 *Fed. Reg.* 13044 (March 18, 1994).
15. Appendix B to 40 C.F.R. Part 82, Subpart G, specifies that flammable substitutes, other than R-152a or R-1234yf in new equipment, are unacceptable for use in CFC-12 motor vehicle air conditioners, for both new and retrofit uses. See 60 *Fed. Reg.* 31103 (June 13, 1995) and amendments.
16. Appendix R and Appendix V to 40 C.F.R. Part 82, Subpart G, do not include any flammable hydrocarbon refrigerants acceptable for use as a retrofit refrigerant in equipment designed for nonflammable materials. See 80 *Fed. Reg.* 19491 (April 10, 2015) and 81 *Fed. Reg.* 86889-91 (December 1, 2016). The only end-use in which flammable hydrocarbon refrigerants are acceptable for retrofit use is in industrial process refrigeration. See 59 *Fed. Reg.* 13044 (March 18, 1994).
17. Appendix V to 40 C.F.R. Part 82, Subpart G, specifies that all refrigerants identified as flammability Class 3 in ANSI/ASHRAE Standard 34-2013, and all refrigerants meeting the criteria for flammability Class 3 in ANSI/ASHRAE Standard 34-2013, including but

not limited to RED TEK 22a, are unacceptable for use in residential and light commercial air conditioning – unitary split A/C systems and heat pumps when used as retrofits. This is because they present a flammability risk when used in equipment designed for nonflammable refrigerants. See 81 *Fed. Reg.* 86893 (December 1, 2016).

### **Factual Background**

18. Thermofluid is a Tennessee corporation with a place of business at 3031 Topside Business Park Drive, Louisville, Tennessee (the Louisville facility).
19. At the Louisville facility, Thermofluid sells and distributes hydrocarbon refrigerants under the registered trademark “Red Tek®.”
20. “Red Tek 12a,” “Red Tek 22a,” and “Red Tek 502a” are Red Tek® refrigerants that have been sold by Thermofluid.
21. Thermofluid has sold and distributed “Red Tek 12a,” “Red Tek 22a,” and “Red Tek 502a” into interstate commerce.
22. The Safety Data Sheets for “Red Tek 12a” state that it is an “extremely flammable gas” that presents “risk of explosion” and “vapor may ignite if exposed to static discharge.”
23. The Safety Data Sheets for “Red Tek 22a” state that it is an “extremely flammable gas” that presents “risk of explosion” and may react “with oxidants causing fire/explosion hazard.”
24. The Safety Data Sheets for “Red Tek 502a” state that it is an “extremely flammable gas” that “may cause flash fire” and “accidental releases pose a serious fire or explosion hazard.”
25. The product labels for “Red Tek 12a” state that the “contents may catch fire.”
26. The product labels for “Red Tek 22a” state that the “contents may catch fire.”
27. The product labels for “Red Tek 502a” state that it “can form explosive mixtures with air.”
28. CFC-12 is a non-flammable, Class I ODS used in many end-uses in the refrigeration and air conditioning sector (e.g., industrial process refrigeration, vending machines, household refrigerators and freezers, residential dehumidifiers). See 59 *Fed. Reg.* 13044 (March 18, 1994), 59 *Fed. Reg.* 44240 (August 26, 1994), and 60 *Fed. Reg.* 3318 (January 13, 1995).
29. HCFC-22 is a non-flammable, Class II ODS approved by EPA for many end-uses in the refrigeration and air conditioning sector (e.g., industrial process refrigeration, vending machines, household refrigerators and freezers, residential dehumidifiers). See 59 *Fed. Reg.* 13044 (March 18, 1994), 59 *Fed. Reg.* 44240 (August 26, 1994), and 60 *Fed. Reg.* 3318 (January 13, 1995).

30. CFC-115 is a non-flammable, Class I ODS used in non-mechanical heat transfer. See 60 *Fed. Reg.* 38729 (July 28, 1995).
31. R-502 is a non-flammable blend of Class I and Class II ODS and is used in many refrigeration and air conditioning applications, such as industrial process refrigeration, ice skating rinks, cold storage warehouses, refrigerated transport, retail food refrigeration, vending machines, water coolers, commercial ice machines, household refrigerators and freezers, and non-mechanical heat transfer. See 59 *Fed. Reg.* 13044 (March 18, 1994).
32. CFC-12 is commonly referred to as "R-12."
33. HCFC-22 is commonly referred to as "R-22."
34. CFC-115 is commonly referred to as "R-115."
35. R-502 is a blend of R-22 and R-115.
36. Technical materials prepared by Thermofluid related to the use of Red Tek® hydrocarbon refrigerants directly compare Red Tek® hydrocarbon refrigerant data to refrigerant data of R-12, R-22 and R-502.
37. Marketing materials for Red Tek® hydrocarbon refrigerants state that they are "designed as a direct replacement and retrofit option for refrigerants in automotive, commercial, and home air conditioning systems."
38. Marketing materials for "Red Tek 12a" state that it "can be used effectively in R12 or R134a refrigeration systems without major 'retrofitting.'"
39. Marketing materials for "Red Tek 22a" state that it is "designed as a direct replacement for R-22."
40. Marketing materials for "Red Tek 502a" state that it is "designed as a direct replacement for R-502."
41. At the Louisville facility, Thermofluid prepares Red Tek 12a for sale by, among other actions, labeling canisters of Red Tek 12a.
42. At the Louisville facility, Thermofluid prepares Red Tek 22a for sale by, among other actions, labeling canisters of Red Tek 22a.
43. At the Louisville facility, Thermofluid prepares Red Tek 502a for sale by, among other actions, labeling canisters of Red Tek 502a.
44. The product label for "Red Tek 12a" six- oz. canister states that it is "equivalent to 510 g of R-12."
45. The product label for "Red Tek 12a" 12 lb. canister states that it is "equivalent to 36 lbs. of R-12."

46. The product label for “Red Tek 12a” 20 lb. canister states that it is “equivalent to 60 lbs. of R-12.”
47. The product label for “Red Tek 22a” eight oz. canister states that it is “equivalent to 567 g of R-22.”
48. The product label for “Red Tek 22a” 20 lb. canister states that it is “equivalent to 50 lbs. of R-22.”
49. The product label for “Red Tek 22a” 12 lb. canister states that it is “equivalent to 30 lbs. of R-22.”
50. The product label for “Red Tek 502a” 20 lb. canister states that it is “equivalent to 50 lbs. of R-502.”
51. The product label for “Red Tek 502a” 12 lb. canister states that it is “equivalent to 30 lbs. of R-502.”
52. “Red Tek 12a” is a product intended for use as a replacement for a Class I compound, and thus a “substitute,” as defined by the SNAP regulations at 40 C.F.R. § 82.172.
53. “Red Tek 22a” is a product intended for use as a replacement for a Class II compound, and thus a “substitute,” as defined by the SNAP regulations at 40 C.F.R. § 82.172.
54. “Red Tek 502a” is a product intended for use as a replacement for Class I and Class II compounds, and thus a “substitute,” as defined by the SNAP regulations at 40 C.F.R. § 82.172.
55. The Class I substance that “Red Tek 12a” is intended to replace, R-12, is still available for use as a refrigerant and is used throughout the industry.
56. The Class II substance that “Red Tek 22a” is intended to replace, R-22, is still available for use as a refrigerant and is used throughout the industry.
57. The Class I substance that “Red Tek 502a” is intended to replace, R-502, is still available for use as a refrigerant and is used throughout the industry.
58. No notice of intent to introduce “Red Tek 12a” into interstate commerce has been submitted to EPA.
59. No notice of intent to introduce “Red Tek 22a” into interstate commerce has been submitted to EPA.
60. No notice of intent to introduce “Red Tek 502a” into interstate commerce has been submitted to EPA.
61. EPA has not approved “Red Tek 12a” as a substitute for R-12.

- 62. EPA has not approved "Red Tek 22a" as a substitute for R-22.
- 63. EPA has not approved "Red Tek 502a" as a substitute for R-502.

#### **Violations**

- 64. Thermofluid introduced "Red Tek 12a" into interstate commerce before the expiration of 90 days after initial submission to EPA of the notice of intent, in violation of 40 C.F.R. § 82.174(a).
- 65. Thermofluid introduced "Red Tek 22a" into interstate commerce before the expiration of 90 days after initial submission to EPA of the notice of intent, in violation of 40 C.F.R. § 82.174(a).
- 66. Thermofluid introduced "Red Tek 502a" into interstate commerce before the expiration of 90 days after initial submission to EPA of the notice of intent, in violation of 40 C.F.R. § 82.174(a).
- 67. By preparing "Red Tek 12a" for sale by labeling it, among other actions, Thermofluid used a substitute which it knows or has reason to know was manufactured, processed or imported in violation of the SNAP regulations, in violation of 40 C.F.R. § 82.174(b).
- 68. By preparing "Red Tek 22a" for sale by labeling it, among other actions, Thermofluid used a substitute which it knows or has reason to know was manufactured, processed or imported in violation of the SNAP regulations, in violation of 40 C.F.R. § 82.174(b).
- 69. By preparing "Red Tek 502a" for sale by labeling it, among other actions, Thermofluid used a substitute which it knows or has reason to know was manufactured, processed or imported in violation of the SNAP regulations, in violation of 40 C.F.R. § 82.174(b).

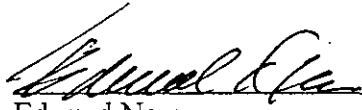
#### **Environmental Impact of Violations**

- 70. The use of "Red Tek 12a," a hydrocarbon refrigerant, in unapproved uses as a substitute for R-12 creates the potential for explosion and fires. As such, it presents a serious risk to human health and the environment.
- 71. The use of "Red Tek 22a," a hydrocarbon refrigerant, in unapproved uses as a substitute for R-22 creates the potential for explosion and fires. As such, it presents a serious risk to human health and the environment.



72. The use of "Red Tek 502a," a hydrocarbon refrigerant, in unapproved uses as a substitute for R-502 creates the potential for explosion and fires. As such, it presents a serious risk to human health and the environment.

9/22/12  
Date

  
Edward Nam  
Director  
Air and Radiation Division



## U.S. EPA Small Business Resources Information Sheet

The United States Environmental Protection Agency provides an array of resources to help small businesses understand and comply with federal and state environmental laws. In addition to helping small businesses understand their environmental obligations and improve compliance, these resources will also help such businesses find cost-effective ways to comply through pollution prevention techniques and innovative technologies.

### Small Business Programs

[www.epa.gov/smallbusiness](http://www.epa.gov/smallbusiness)  
EPA's Office of Small Business Programs (OSBP) advocates and fosters opportunities for direct and indirect partnerships, contracts, and sub-agreements for small businesses and socio-economically disadvantaged businesses.

### EPA's Asbestos Small Business Ombudsman

[www.epa.gov/sbo](http://www.epa.gov/sbo) or 1-800-368-5888  
The EPA Asbestos and Small Business Ombudsman (ASBO) serves as a conduit for small businesses to access EPA and facilitates communications between the small business community and the Agency.

### EPA's Compliance Assistance Homepage

[www2.epa.gov/compliance](http://www2.epa.gov/compliance)  
This page is a gateway industry and statute-specific environmental resources, from extensive web-based information to hotlines and compliance assistance specialists.

### EPA's Compliance Assistance Centers

[www.assistancecenters.net](http://www.assistancecenters.net)  
EPA's Compliance Assistance Centers provide information targeted to industries with many small businesses. They were developed in partnership with industry, universities and other federal and state agencies.

### Agriculture

[www.epa.gov/agriculture/](http://www.epa.gov/agriculture/)

### Automotive Recycling

[www.ecarcenter.org](http://www.ecarcenter.org)

### Automotive Service and Repair

[ccar-greenlink.org/](http://ccar-greenlink.org/) or 1-888-GRN-LINK

### Chemical Manufacturing

[www.chemalliance.org](http://www.chemalliance.org)

### Construction

[www.cicacenter.org](http://www.cicacenter.org) or 1-734-995-4911

### Education

[www.campuserc.org](http://www.campuserc.org)

### Food Processing

[www.fpeac.org](http://www.fpeac.org)

### Healthcare

[www.hercenter.org](http://www.hercenter.org)

### Local Government

[www.lgean.org](http://www.lgean.org)

### Metal Finishing

[www.nmfrc.org](http://www.nmfrc.org)

### Paints and Coatings

[www.paintcenter.org](http://www.paintcenter.org)

### Printing

[www.pneac.org](http://www.pneac.org)

### Ports

[www.portcompliance.org](http://www.portcompliance.org)

### Transportation

[www.tercenter.org](http://www.tercenter.org)

### U.S. Border Compliance and Import/Export Issues

[www.bordercenter.org](http://www.bordercenter.org)

### EPA Hotlines, Helplines and Clearinghouses

[www2.epa.gov/home/epa-hotlines](http://www2.epa.gov/home/epa-hotlines)

EPA sponsors many free hotlines and clearinghouses that provide convenient assistance regarding environmental requirements. Some examples are:

### Clean Air Technology Center (CATC) Info-line

[www.epa.gov/ttn/catc](http://www.epa.gov/ttn/catc) or 1-919-541-0800

### Superfund, TRI, EPCRA, RMP and Oil Information Center

[www.epa.gov/superfund/contacts/infocenter/index.htm](http://www.epa.gov/superfund/contacts/infocenter/index.htm) or 1-800-424-9346

### EPA Imported Vehicles and Engines Public Helpline

[www.epa.gov/otaq/imports](http://www.epa.gov/otaq/imports) or 734-214-4100

### National Pesticide Information Center

[www.npic.orst.edu/](http://www.npic.orst.edu/) or 1-800-858-7378

### National Response Center

**Hotline** to report oil and hazardous substance spills - [www.nrc.uscg.mil](http://www.nrc.uscg.mil) or 1-800-424-8802

### Pollution Prevention Information Clearinghouse (PPIC) -

[www.epa.gov/opptintr/ppic](http://www.epa.gov/opptintr/ppic) or 1-202-566-0799

### Safe Drinking Water Hotline -

[www.epa.gov/drink/hotline/index.cfm](http://www.epa.gov/drink/hotline/index.cfm) or 1-800-426-4791

### Stratospheric Ozone Protection Hotline

[www.epa.gov/ozone/comments.htm](http://www.epa.gov/ozone/comments.htm) or 1-800-296-1996

### Toxic Substances Control Act (TSCA) Hotline

[tsc-hotline@epa.gov](mailto:tsc-hotline@epa.gov) or 1-202-554-1404

### Small Entity Compliance Guides

<http://www.epa.gov/sbrefa/compliance-guides.html>

EPA publishes a Small Entity Compliance Guide (SECG) for every rule for which the Agency has prepared a final regulatory flexibility analysis, in accordance with Section 604 of the Regulatory Flexibility Act (RFA).

### Regional Small Business Liaisons

<http://www.epa.gov/sbo/rsbl.htm>

The U.S. Environmental Protection Agency (EPA) Regional Small Business Liaison (RSBL) is the primary regional contact and often the expert on small business assistance, advocacy, and outreach. The RSBL is the regional voice for the EPA Asbestos and Small Business Ombudsman (ASBO).

### State Resource Locators

[www.envcap.org/statetools](http://www.envcap.org/statetools)

The Locators provide state-specific contacts, regulations and resources covering the major environmental laws.

### State Small Business Environmental Assistance Programs (SBEAPs)

[www.epa.gov/sbo/507program.htm](http://www.epa.gov/sbo/507program.htm)

State SBEAPs help small businesses and assistance providers understand environmental requirements and sustainable business practices through workshops, trainings and site visits.

### EPA's Tribal Portal

[www.epa.gov/tribalportal/](http://www.epa.gov/tribalportal/)

The Portal provides access to information on environmental issues, laws, and resources related to federally recognized tribes.

### EPA Compliance Incentives

EPA provides incentives for environmental compliance. By participating in compliance assistance programs or voluntarily disclosing and promptly correcting violations before an enforcement action has been initiated, businesses may be eligible for penalty waivers or reductions. EPA has two such policies that may apply to small businesses:

### EPA's Small Business Compliance Policy

[www2.epa.gov/enforcement/small-businesses-and-enforcement](http://www2.epa.gov/enforcement/small-businesses-and-enforcement)

This Policy offers small businesses special incentives to come into compliance voluntarily.

### EPA's Audit Policy

[www2.epa.gov/compliance/epas-audit-policy](http://www2.epa.gov/compliance/epas-audit-policy)

The Policy provides incentives to all businesses that voluntarily discover, promptly disclose and expeditiously correct their noncompliance.

### Commenting on Federal Enforcement Actions and Compliance Activities

The Small Business Regulatory Enforcement Fairness Act (SBREFA) established a SBREFA Ombudsman and 10 Regional Fairness Boards to receive comments from small businesses about federal agency enforcement actions. If you believe that you fall within the Small Business Administration's definition of a small business (based on your North American Industry Classification System designation, number of employees or annual receipts, as defined at 13 C.F.R. 121.201; in most cases, this means a business with 500 or fewer employees), and wish to comment on federal enforcement and compliance activities, call the SBREFA Ombudsman's toll-free number at 1-888-REG-FAIR (1-888-734-3247).

Every small business that is the subject of an enforcement or compliance action is entitled to comment on the Agency's actions without fear of retaliation. EPA employees are prohibited from using enforcement or any other means of retaliation against any member of the regulated community in response to comments made under SBREFA.

### Your Duty to Comply

If you receive compliance assistance or submit a comment to the SBREFA Ombudsman or Regional Fairness Boards, you still have the duty to comply with the law, including providing timely responses to EPA information requests, administrative or civil complaints, other enforcement actions or communications. The assistance information and comment processes do not give you any new rights or defenses in any enforcement action. These processes also do not affect EPA's obligation to protect public health or the environment under any of the environmental statutes it enforces, including the right to take emergency remedial or emergency response actions when appropriate. Those decisions will be based on the facts in each situation. The SBREFA Ombudsman and Fairness Boards do not participate in resolving EPA's enforcement actions. Also, remember that to preserve your rights, you need to comply with all rules governing the enforcement process.

*EPA is disseminating this information to you without making a determination that your business or organization is a small business as defined by Section 222 of the Small Business Regulatory Enforcement Fairness Act or related provisions.*

## CERTIFICATE OF MAILING

I certify that I sent a Finding of Violation, No. EPA-5-17-COE-01, by Certified Mail, Return Receipt Requested, to:

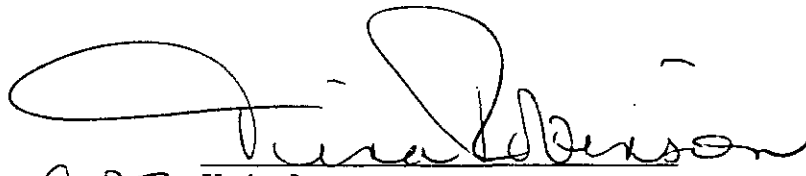
Gene Brewer, CEO  
Thermofluid Technologies, Inc.  
3031 Topside Business Park Drive  
Louisville, Tennessee 37777

I also certify that I sent copies of the Finding of Violation by e-mail to:

Beverly Spagg  
Chief, Air Compliance Branch  
US EPA Region 4  
[spagg.beverly@epa.gov](mailto:spagg.beverly@epa.gov)

Greg Fried  
Air Enforcement Division  
US EPA Headquarters  
[fried.gregory@epa.gov](mailto:fried.gregory@epa.gov)

On the 22nd day of September, 2017

  
Kathy Jones  
Program Technician  
AECAB, PAS

CERTIFIED MAIL RECEIPT NUMBER: 70161370 0001 5719 9834